

Medical Oxygen Concentrator for Microgravity Operation, Phase I

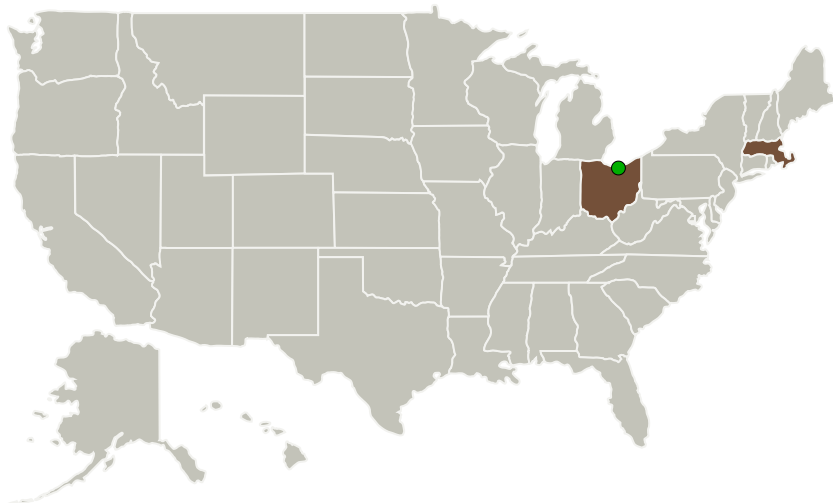
Completed Technology Project (2014 - 2014)




Project Introduction

We have all seen people carrying portable oxygen tanks or concentrators to provide critical life support respiratory oxygen. Heavy, bulky, and for O2 concentrators, noisy, there clearly is an opportunity to improve the delivery of oxygen to the millions of users requiring oxygen therapy. This program affords us an opportunity to develop and demonstrate a noiseless, portable medical oxygen concentrator that can serve a large terrestrial market as well as future NASA exploration missions that need emergency oxygen for various medical scenarios. This product aims to improve the three largest user complaints with existing portable O2 concentrators, namely, that the systems are too heavy, too noisy, and they are too bulky restricting mobility. Reactive's medical oxygen concentrator will provide improved mobility for people that require O2 respiratory therapy enhancing the quality of their life.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
Reactive Innovations, LLC	Lead Organization	Industry	Westford, Massachusetts
 Glenn Research Center(GRC)	Supporting Organization	NASA Center	Cleveland, Ohio



Medical Oxygen Concentrator for Microgravity Operation Project Image

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Primary U.S. Work Locations

Massachusetts

Ohio

Project Transitions

June 2014: Project Start

December 2014: Closed out

Closeout Documentation:

- Final Summary Chart(<https://techport.nasa.gov/file/137654>)

Images



Project Image

Medical Oxygen Concentrator for
Microgravity Operation Project
Image

(<https://techport.nasa.gov/image/130823>)

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission
Directorate (STMD)

Lead Organization:

Reactive Innovations, LLC

Responsible Program:

Small Business Innovation
Research/Small Business Tech
Transfer

Project Management

Program Director:

Jason L Kessler

Program Manager:

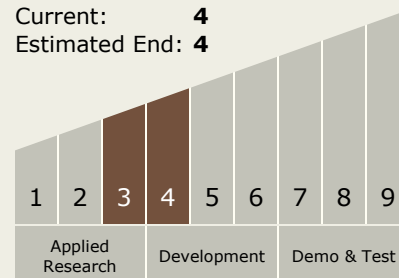
Carlos Torrez

Principal Investigator:

Michael C Kimble

Technology Maturity (TRL)

Start: **3**
Current: **4**
Estimated End: **4**



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Technology Areas

Primary:

- TX06 Human Health, Life Support, and Habitation Systems
 - └ TX06.4 Environmental Monitoring, Safety, and Emergency Response
 - └ TX06.4.3 Protective Clothing and Breathing

Target Destinations

The Sun, Earth, The Moon, Mars, Others Inside the Solar System, Outside the Solar System